Cub Cadet®

Power Equipment

Owner's Manual

REAR ENGINE LAWN TRACTOR

Model Number
1030
(134B582B100)

Important:

Read Safety Rules and Instructions Carefully

Thank you for purchasing an American-built product.

WARNING: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.
In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest authorized service dealer.

UB CADET CORPORATION • P.O. BOX 368023 • CLEVELAND, OHIO 44136-9723

Cub Cadet

Power Equipment

LIMITED WARRANTY

TWO-YEAR RESIDENTIAL
ONE-YEAR COMMERCIAL

Proper maintenance of your Cub Cadet equipment is the owner's responsibility. Follow the instructions in your owner's manual for correct lubricants and maintenance schedule. Your Cub Cadet dealer carries a complete line of quality lubricants and filters for your equipment's engine, transmission, chassis and attachments.

RIDING MOWERS, LAWN TRACTORS, GARDEN TRACTORS, CUB CADET ATTACHMENTS AND HOME MAINTENANCE PRODUCTS

This limited warranty for residential users, covers any defect in materials or workmanship in your Cub Cadet equipment for two years from the date of purchase for the first user purchaser.

We will replace or repair any part or parts without charge through your authorized Cub Cadet dealer.

Batteries have a one-year prorated limited warranty with 100% replacement during the first three months.

V-belts for either the traction drive or any attachments are covered for one year only.

Cub Cadet equipment used commercially is warranted for one year only.

(Commercial use is defined as either having hired operators or used for income producing purpose.)

ITEMS NOT COVERED

The warranty does not cover routine maintenance items such as lubricants, filters (oil, fuel, air and hydraulic), cleaning, tune-ups, brake and/or clutch inspection, adjustments made as part of normal maintenance, blade sharpening, set-up, abuse, accidents and normal wear. It does not cover incidental costs such as transporting your equipment to and from the dealer, telephone charges or renting a product temporarily to replace a warranted product.

There is no other express warranty.

HOW TO OBTAIN SERVICE

Contact your authorized Cub Cadet servicing dealer who sold you your Cub Cadet equipment. If this dealer is not available, see the Consumer Yellow Pages under "lawn mowers" for the name of a dealer near you.

If you need further assistance in finding an authorized Cub Cadet servicing dealer, contact:

Cub Cadet Corporation
Post Office Box 368023
Cleveland, Ohio 44136-9723

HOW DOES STATE LAW APPLY?

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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IMPORTANT SAFE OPERATION PRACTICES

THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR UNIT. WHEN YOU SEE THIS SYMBOL— ⚠ HEED ITS WARNING.

DANGER: This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

I. GENERAL OPERATION

1. Read, understand, and follow all instructions in the manual and on the machine before starting. Keep this manual in a safe place for future reference and for ordering replacement parts.
2. Only allow responsible adults familiar with the instructions to operate the machine. Know controls and how to stop the machine quickly.
3. Do not put hands or feet under cutting deck or near rotating parts.
4. Clear the area of objects such as rocks, toys, wire, etc. which could be picked up and thrown by the blade. A small object may have been overlooked and could be accidently thrown by the mower in any direction and cause injury to you or a bystander. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair, to protect eyes from foreign objects. Stop the blade(s) when crossing gravel drives, walks or roads.
5. Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
6. Never carry passengers.
7. Disengage blade(s) before shifting into reverse and backing up. Always look down and behind before and while backing.
8. Be aware of the mower and attachment discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the chute guard in place.
9. Slow down before turning. Operate the tractor smoothly. Avoid erratic operation and excessive speed.
10. Never leave a running machine unattended. Always turn off blade(s), place transmission in neutral, set park brake, stop engine and remove key before dismounting.
11. Turn off blade(s) when not mowing.
12. Stop engine and wait until blade(s) comes to a complete stop before (a) removing grass catcher or unclogging chute, or (b) making any repairs, adjusting or removing any grass or debris.
13. Mow only in daylight or good artificial light.
14. Do not operate the machine while under the influence of alcohol or drugs.
15. Watch for traffic when operating near or crossing roadways.
16. Use extra care when loading or unloading the machine into a trailer or truck. This unit should not be driven up or down a ramp onto a trailer or truck under power, because the unit could tip over, causing serious personal injury. The unit must be pushed manually to load or unload properly.
17. Never make a cutting height adjustment while engine is running if operator must dismount to do so.
18. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Do not wear loose fitting clothes or jewelry. They can be caught in moving parts. Never operate a unit in bare feet, sandals, or sneakers.
19. Check overhead clearance carefully before driving under power lines, wires, bridges or low hanging tree branches, before entering or leaving buildings, or in any other situation where the operator may be struck or pulled from the unit, which could result in serious injury.
20. Disengage all attachment clutches, thoroughly depress the brake pedal, and shift into neutral before attempting to start engine.

II. SLOPE OPERATION

Slopes are a major factor related to loss of control and tip-over accidents which can result in severe injury or death. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

DO:

Mow up and down slopes, not across.

Remove obstacles such as rocks, limbs, etc.

Watch for holes, ruts or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.

Use slow speed. Choose a low enough gear so that you will not have to stop or shift while on the slope. Always keep tractor in gear when going down slopes to take advantage of engine braking action.

Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.

Use extra care with grass catchers or other attachments. These can change the stability of the machine.

Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction. Rapid engagement or braking could cause the front of the machine to lift and rapidly flip over backwards which could cause serious injury.

Avoid starting or stopping on a slope. If tires lose traction, disengage the blade(s) and proceed slowly straight down the slope.

For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.

RULES FOR SAFE OPERATION (continued)

DO NOT:

Do not turn on slopes unless necessary; then, turn slowly and gradually downhill, if possible.
Do not mow near drop-offs, ditches or embankments. A wheel over the edge or an edge caving in could cause sudden overturn.
Do not mow on wet grass. Reduced traction could cause sliding.
Do not try to stabilize the machine by putting your foot on the ground.
Do not use grass catcher on steep slopes.

III. CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. **Never** assume that children will remain where you last saw them.

1. Keep children out of the mowing area and in watchful care of an adult other than the operator.
2. Be alert and turn machine off if children enter the area.
3. Before and when backing, look behind and **down** for small children.
4. Never carry children. They may fall off and be seriously injured or interfere with the safe machine operation.
5. Never allow children under 14 years old to operate the machine. Children 14 years and over should only operate machine under close parental supervision and proper instruction.
6. Use extra care when approaching blind corners, shrubs, trees or other objects that may obscure vision.

IV. SERVICE

1. Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.
   a. Use only an approved container.
   b. Never remove gas cap or add fuel with the engine running. Allow engine to cool at least two minutes before refueling. Do not smoke.
   c. Never refuel the machine indoors.
   d. Never store the machine or fuel container inside where there is an open flame, or spark, such as a water heater, space heater, clothes dryer and the like.
2. Never run a machine inside a closed area.
3. Check frequently and keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in safe working condition.
4. Never tamper with safety devices. Check their proper operation regularly. Use all guards as instructed in this manual.
5. To reduce fire hazard, keep machine free of grass, leaves or other debris build-up. Clean up oil or fuel spillage. Allow machine to cool before storing.
6. Stop and inspect the equipment for damage if you strike an object. Repair, if necessary, before re-starting and operating the machine.
7. Never make adjustments or repairs with the engine running.
8. Grass catcher components are subject to wear, damage and deteriorate, which could expose moving parts or allow objects to be thrown. Frequently, check components and replace with manufacturer's recommended parts when necessary.
9. Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves and use extra caution when servicing blade(s).
10. Check brake operation frequently. Adjust and service as required.
11. Muffler, engine, and belt guards become hot during operation and can cause a burn. Allow to cool down before touching.
12. Do not change the engine governor settings or overspeed the engine.

DANGER: Your unit was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.

TO THE OWNER

This manual contains operation, lubrication, and maintenance instructions for the Cub Cadet 1030 rear engine lawn tractor. The material has been prepared in detail to help you better understand the correct care and efficient operation of your lawn tractor. Before you operate the lawn tractor, study this manual carefully. Additional copies may be ordered from your dealer at a nominal price.

Your local authorized dealer is interested in the performance you receive from your rear engine lawn tractor. He has factory-trained servicemen, informed in the latest method of servicing tractors, modern tools, and original-equipment service parts which assure proper fit and good performance.

To obtain top performance and assure economical operation the rear engine lawn tractor should be inspected, depending on its use, periodically, or at least once a year, by your authorized dealer.

When in need of parts, always specify the model, chassis, and engine serial numbers, including the prefix and suffix letters. Write these serial numbers in the space provided on this page.

Should you have difficulties with the unit, consult your authorized dealer. UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO SERVICE THESE UNITS YOURSELF. Only your dealer is authorized to repair or replace units on this drive under the terms of the warranty. Should you desire additional information not found in this manual, contact your authorized Cub Cadet dealer.

SERIAL NUMBER LOCATION

Chassis serial number plate is on the frame, near the rear tow plate. Engine serial number plate is located on the engine shroud. Record these numbers in the space provided at right.

MODEL _____

DELIVERY DATE _____

CONTROLS

Your Cub Cadet rear engine lawn tractor has been safety engineered. Thoroughly acquaint yourself with all the controls before attempting to start or operate the lawn tractor.

NOTE: LEFT and RIGHT indicate the left and right sides of the tractor when facing forward in the driver's seat.

THROTTLE CONTROL

The throttle control is located beside the seat on the right side of the rear engine lawn tractor. See figure 1. The throttle control controls the speed of the engine.

When using attachments operated by the power take-off, best performance is achieved with the throttle control in the FAST position.

"Turtle" This symbol shows SLOW position.

"Rabbit" This symbol shows FAST position.

CHOKE CONTROL

The choke control is located above the throttle control on the right side of the rear engine lawn tractor. The choke control is operated manually. Pull choke knob out to choke engine. Push knob in to open choke. See figure 1.

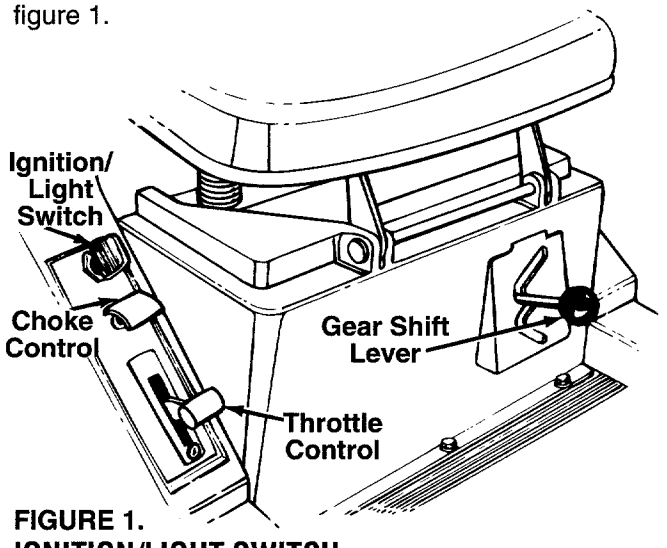


FIGURE 1.

IGNITION/LIGHT SWITCH

The combination ignition and light switch is a four-position switch. It is located above the choke and throttle control on the right side of the rear engine lawn tractor.

Turn the ignition key all the way to the right to start the engine. The key will return to the ON position when released. Turn the key one more position to the left to operate the tractor with the light illuminated. See figures 1 and 2.

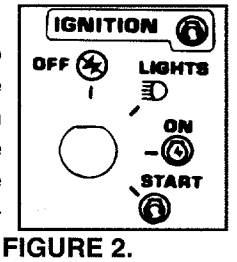


FIGURE 2.

GEAR SHIFT LEVER

The gear shift lever is located on the left hand side of the console and has three positions, FORWARD, NEUTRAL and REVERSE. See figure 1. The clutch-brake pedal must be depressed and the riding mower must not be moving when shifting gears. Do not force the gear shift lever. If the gear shift lever will not shift, release the clutch-brake pedal slightly to line up the shifting collar in the transmission. Then try to shift gears.

SPEED CONTROL LEVER

The speed control lever allows you to regulate the ground speed of the riding mower to one of eight settings. See figure 3. To set, depress clutch pedal. Push speed control lever outward and move backward to slow rider, move forward to increase speed. When desired speed has been obtained, place lever in that position. Whenever clutch is engaged, rider will automatically go to the pre-set speed.

CLUTCH-BRAKE PEDAL

The clutch-brake pedal is located on the right side of the rear engine lawn tractor. Depressing the clutch-brake pedal part way disengages the clutch. Pressing the pedal all the way down disengages the clutch and engages the disc brake to stop the lawn tractor. See figure 3.

NOTE: The clutch-brake pedal must be depressed to start the engine. Parking brake must be engaged if operator leaves the seat with the engine running.

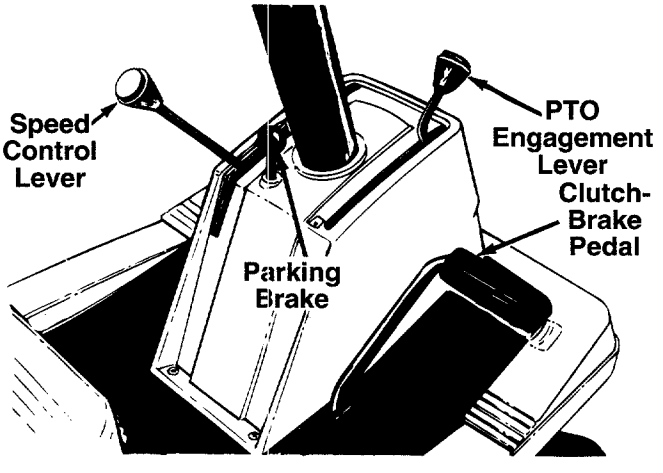


FIGURE 3.

PARKING BRAKE

To set the parking brake, depress the clutch-brake pedal and press the parking brake knob down. To release the parking brake, depress and release the clutch-brake pedal. See figure 3.

PTO ENGAGEMENT LEVER

The PTO engagement lever is located on the right side of the console. See figure 3. To engage the blade, move the PTO engagement lever toward the front of the unit. Move the lever toward the rear to disengage the blade.

CUTTING HEIGHT LEVER

The cutting height lever is located beside the seat on the left side of the lawn tractor. See figure 4. It is used to raise and lower the cutting deck, which sets the cutting height.

Move the lever outward, select desired cutting height and release lever. The lever may be set in any one of eight cutting height positions. See figure 4.

WARNING: The blade does not shut off when the deck is raised. You must place the PTO engagement lever in the disengaged (OFF) position.

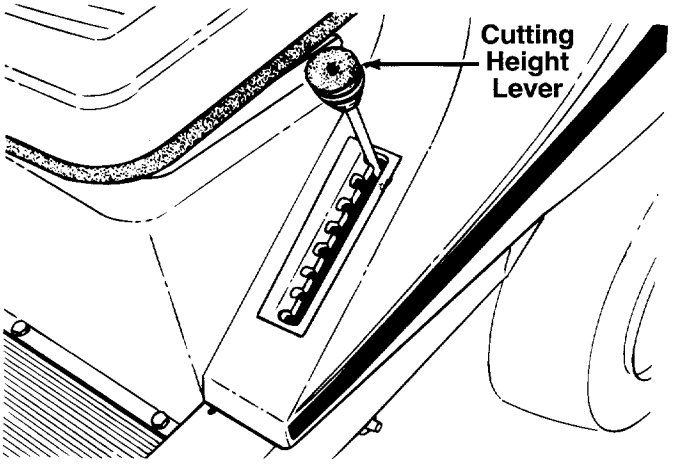


FIGURE 4.

SAFETY INTERLOCK SYSTEM

Interlock safety switches are located on the clutch-brake pedal, the PTO engagement lever, shift lever and the seat.

Before the engine will start or if the operator leaves the seat, the clutch-brake pedal must be depressed all the way (parking brake engaged), and the PTO engagement lever must be in the disengaged position.

In addition, the PTO engagement lever must be in the disengaged position before the unit can be shifted into reverse.

OPERATION

WARNING

AVOID SERIOUS INJURY OR DEATH

- GO UP AND DOWN SLOPES, NOT ACROSS. • AVOID SUDDEN TURNS.
- DO NOT OPERATE THE UNIT WHERE IT COULD SLIP OR TIP.
- IF MACHINE STOPS GOING UPHILL, STOP BLADE(S) AND BACK DOWNHILL SLOWLY.
- DO NOT MOW WHEN CHILDREN OR OTHERS ARE AROUND.
- NEVER CARRY CHILDREN.
- LOOK DOWN AND BEHIND BEFORE AND WHILE BACKING.
- KEEP SAFETY DEVICES (GUARDS, SHIELDS, AND SWITCHES) IN PLACE AND WORKING.
- REMOVE OBJECTS THAT COULD BE THROWN BY THE BLADE(S).
- KNOW LOCATION AND FUNCTION OF ALL CONTROLS.
- BE SURE BLADE(S) AND ENGINE ARE STOPPED BEFORE PLACING HANDS OR FEET NEAR BLADE(S).
- BEFORE LEAVING OPERATOR'S POSITION, DISENGAGE BLADE(S), PLACE THE SHIFT LEVER IN NEUTRAL, ENGAGE BRAKE LOCK, SHUT ENGINE OFF AND REMOVE KEY.

READ OPERATOR'S MANUAL

IMPORTANT: This unit is equipped with a **safety interlock system** for your protection. The purpose of the safety interlock system is to prevent the engine from cranking or starting unless the clutch-brake pedal is depressed and the PTO engagement lever is in the disengaged position. In addition, the PTO engagement lever must be in the disengaged position when the unit is put into reverse or the engine will shut off. If the operator leaves the seat with the PTO engagement lever engaged and/or without setting the parking brake, the engine will shut off.

To restart the engine, shift into neutral (N), move PTO engagement lever to the OFF position, and restart the engine while seated.

WARNING: Do not operate the lawn tractor if the interlock system is malfunctioning because it is a safety device, designed for protection.

GAS AND OIL FILL-UP

Service the engine with gasoline and oil as instructed in the separate engine manual packed with your rear engine lawn tractor. Read instructions carefully.

NOTE: Your lawn tractor is shipped without oil; however, a small amount of oil may be present from the factory. Do not overfill.

WARNING: Never fill fuel tank indoors, with engine running or while engine is hot.

STARTING THE ENGINE

1. Attach the wire to the spark plug.
2. Depress the clutch-brake pedal and lock it down.

3. Make certain the PTO engagement lever is in the disengaged position.
4. Set throttle control in the FAST position. Pull out the choke control.

NOTE: A warm engine may not require choking.

5. Place the shift lever in the NEUTRAL position.
6. Turn the ignition key to the START position. As soon as the engine starts, let the key return to the ON position. See figure 2.

NOTE: Do not operate the starter for more than 10 seconds at any one time. If the engine does not start within this time, turn the key OFF and wait a few minutes, then try again.

7. Push choke knob in gradually. Move throttle control to desired engine speed.
8. To stop, turn the ignition key to the OFF position. Remove the key when the lawn tractor is not in use.

STOPPING

Engine—Turn the ignition key to the left to the OFF position.
Lawn Tractor—Depress the clutch-brake pedal.
Blades—Pull the PTO engagement lever all the way back.

DRIVING THE REAR ENGINE LAWN TRACTOR

NOTE: Parking brake must be disengaged before unit is put into motion.

1. Advance the throttle control to full throttle to prevent strain on the engine and to operate the cutting blades.
2. Place the gear shift lever in either the FORWARD or REVERSE position.

WARNING: Look to the rear before backing up.

3. Slowly release the clutch-brake pedal.
4. To stop, depress the clutch-brake pedal.

NOTE: When operating the unit initially, there will be little difference between the highest two speeds until after the belts have seated themselves into the pulleys during the break-in period.

The blades can be engaged either while moving forward or while standing still. Move the PTO engagement lever forward slowly until the blades are turning.

WARNING: When the blades are engaged, keep feet and hands away from the discharge opening, the blades or any part of the deck.

Be sure that the lawn is clear of stones, sticks, wire, or other objects which could damage lawn mower or engine. For best results and to insure more even grass distribution, do not mow when lawn is excessively wet.

WARNING: Before leaving the operator's position for any reason, disengage the blades, place the shift lever in neutral, engage the parking brake, shut engine off and remove the key.

When stopping the unit to empty a grass bag, etc., follow the instructions above. This procedure will also eliminate "browning" the grass, which is caused by hot exhaust gases from a running engine.

IMPORTANT: If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower.

NOTE: If any problems are encountered, refer to the Trouble Shooting Guide on page 17.

If unit stalls with speed control lever in high speed, or if unit will not operate with speed control lever in a low speed position, proceed as follows.

1. Place gear shift lever in Neutral.
2. Restart engine.
3. Place speed control lever in high speed position.
4. Slowly and with extreme caution release clutch-brake pedal fully.
5. Depress clutch-brake pedal.
6. Place speed control lever in desired position.
7. Place gear shift lever in either forward or reverse, and follow normal operating procedures.

OPTIONAL ACCESSORIES AVAILABLE

Rear bagging grass catcher model 190-310 is available as optional equipment for the rear engine lawn tractor shown in this manual.

WARNING: The mower should not be operated without the entire grass catcher or chute deflector in place.

NOTE: Under normal usage bag material is subject to wear, and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations. For replacement bags, use only factory authorized replacement.

A 30" mulching kit model 190-093 is available as optional equipment for model 1030 shown in this manual.

ADJUSTMENTS

WARNING: Do not at any time make any adjustment to riding mower without first stopping engine and disconnecting spark plug wire.

THROTTLE CONTROL

If adjustment is needed, refer to the separate engine manual packed with your unit.

SPEED CONTROL LEVER ADJUSTMENT

NOTE: When operating the unit initially or after replacing the belts, there will be little difference between the highest two speeds until after the belts have gone through a break-in period and have seated themselves into the pulleys.

If the full range of speeds cannot be obtained on your unit, adjust the speed control lever as follows.

1. Start the engine.
2. Place the shift lever in Neutral position.
3. Place the speed control lever in high speed position.
4. Release the clutch-brake pedal completely, then slowly depress the pedal all the way (to park position). Hold the pedal in this position.
5. Turn the engine off.
6. After engine stops completely, release the clutch-brake pedal.
7. Disconnect the speed control rod by removing the hairpin cotter and flat washer. See figure 5.

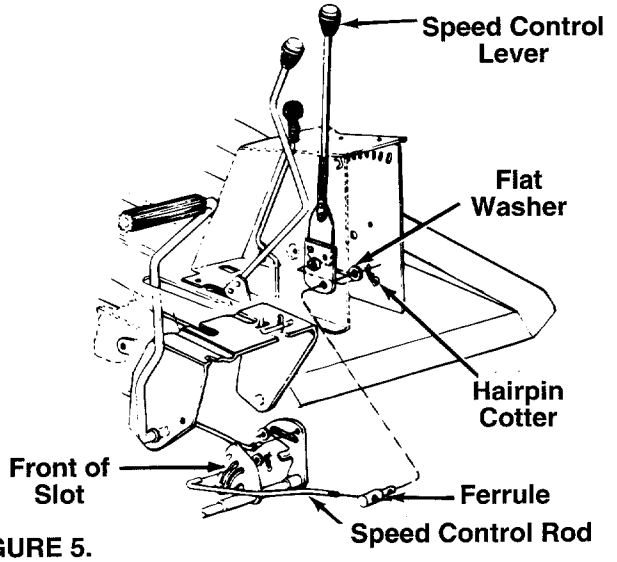


FIGURE 5.

8. Place the speed control lever in 3rd speed position.
9. Adjust the rod by threading it in or out of the ferrule until it is all the way to the front of the slot as shown in figure 5.
10. Secure the speed control rod using the flat washer and hairpin cotter.

NEUTRAL ADJUSTMENT (See Figure 6)

1. Place the transmission in neutral. (The unit will move freely when pushed forward and backward with the parking brake released.)
2. Loosen the bolt which secures the shift lever assembly to the shift lever adjusting link.
3. Place the shift lever in the neutral slot.
4. Tighten the hex bolt to 13 foot pounds.

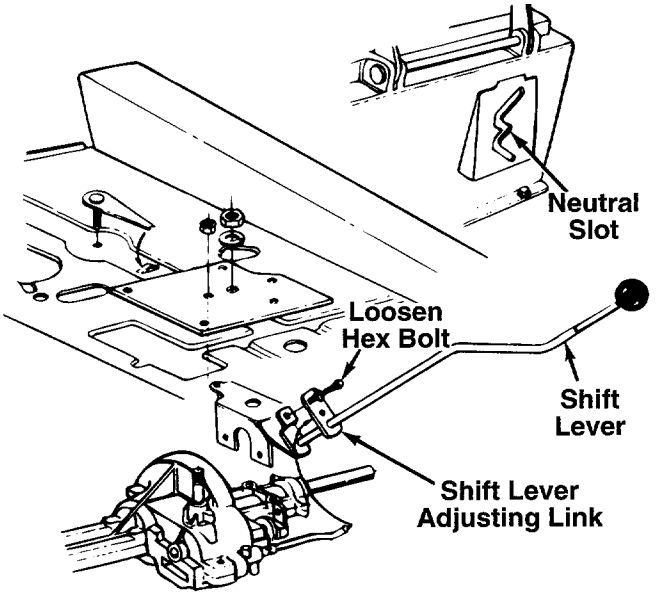


FIGURE 6.

BRAKE ADJUSTMENT (See Figure 7)

The brake is located by the left rear wheel inside the frame. During normal operation of this machine, the brake is subject to wear and will require periodic examination and adjustment.

Adjust the nut so the brake starts to engage when the brake lever is 1/4" to 5/16" away from the axle housing.

NOTE: Figure 7 is shown with the unit tipped up on rear wheels for clarity only.

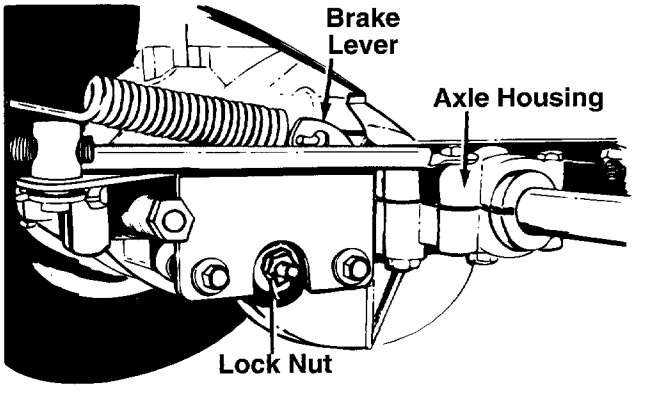


FIGURE 7.

WHEEL ALIGNMENT

The caster (forward slant of the king pin) and the camber (tilt of the wheels out at the top) require no adjustment. Automotive steering principles have been used to determine the caster and camber on the mower. The front wheels should toe-in 1/8 inch. See figure 8. To adjust, follow these steps:

1. Remove the cotter pin and flat washer which hold the tie rod to the axle bracket. See figure 8.
2. Adjust the tie rod in or out until the wheels toe-in approximately 1/8" (Dimension "A" should be approximately 1/8" less than dimension "B"). See figure 9.

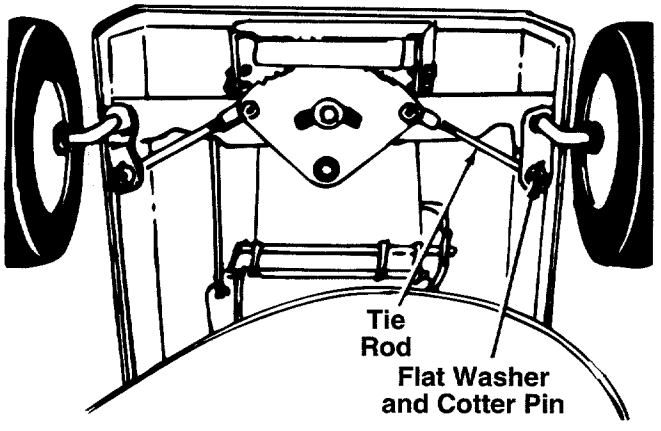


FIGURE 8.

3. Replace the tie rod into the wheel bracket, and replace the cotter pin and flat washer.

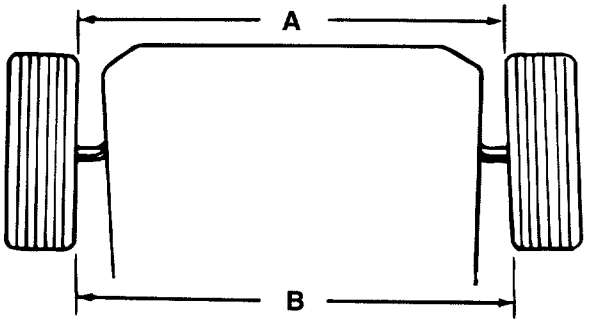


FIGURE 9.

DECK ADJUSTMENT

Side to Side Leveling

NOTE: Check tire pressure in all four tires before leveling the deck. Recommended tire pressure is 12 p.s.i.

If an uneven cut is obtained, the deck may be leveled.

1. Raise the deck to its highest position.
2. With the unit on a hard, level surface, measure the distance from the bottom edge of both the left rear and right rear of deck to the ground.
3. If adjustment is needed, loosen the hex nut on the adjusting screw, located under the right side of the frame. See figure 10. Move the adjusting screw inward to lower the right side of the deck, or outward to raise the right side of the deck.
4. Remeasure the deck as described in step 2, and readjust if necessary. Tighten the hex nut to secure the adjusting screw when the deck is level.

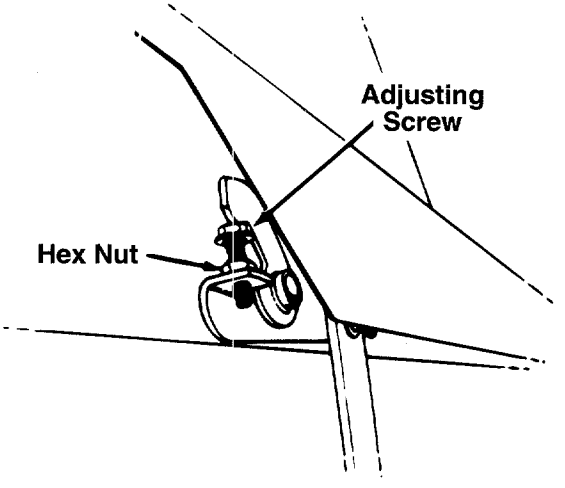


FIGURE 10.

Front to Rear Adjustment

To obtain the best cut, the front of the deck should be between 1/4" and 3/8" lower than the rear of the deck.

1. Make the side to side adjustment as instructed previously.
2. Measure the distance from the bottom edge of the front and right rear of deck to the ground.
3. If the front is not between 1/4" and 3/8" lower than the rear, remove the hairpin clips and flat washers which secure the J-bolts to the front of the deck, both right and left sides. See figure 11. Thread the J-bolts into or out of the ferrules as necessary.
4. Reassemble J-bolts and recheck the adjustment. Readjust as necessary. Secure with flat washers and hairpin clips when adjustment is correct.

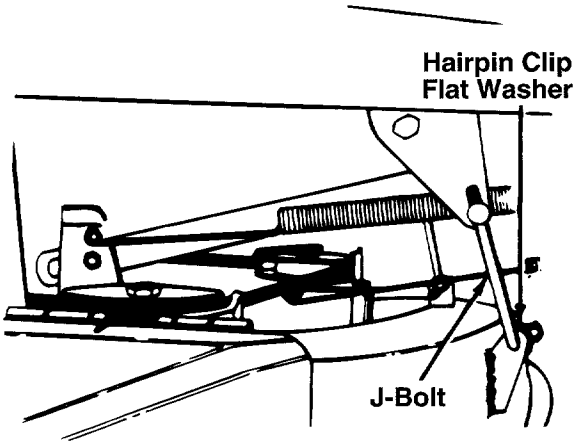


FIGURE 11.

BLADE BRAKE ADJUSTMENT

WARNING: Make certain spark plug wire is disconnected and grounded against the engine while making this adjustment.

To adjust the blade brake, proceed as follows. See figure 12.

1. Disconnect the brake cable from the lower inside belt guard on the lawn tractor by removing the hairpin cotter, flat washer and clevis pin.
2. Lower the deck to its lowest position. Place the blade engagement lever in the **disengaged** position.
3. Pull the brake cable back so there is no slack in the cable. **Do not** put tension on the cable. Select the hole in the lower inside belt guard which aligns with the end of the cable. Move the end of the brake cable **forward** to the next hole in the belt guard (which will give a small amount of slack in the cable), and reassemble.

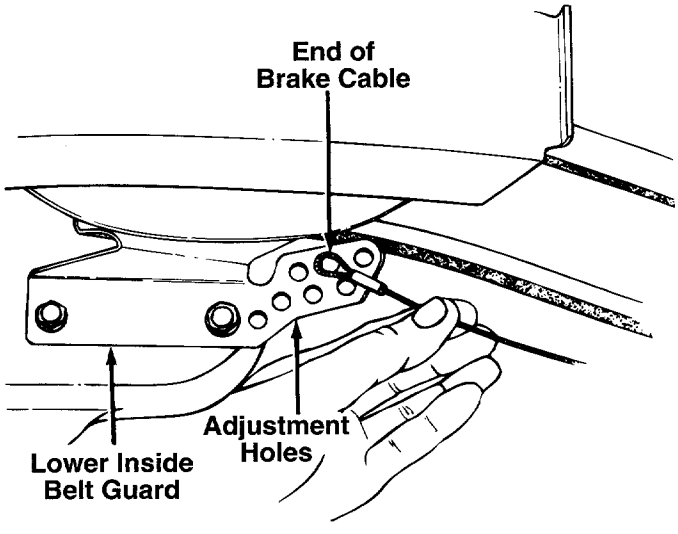


FIGURE 12.

SEAT ADJUSTMENT

The seat may be adjusted to different positions. To adjust the seat, loosen the four self-tapping screws which secure the seat to the seat bracket. See figure 13. Slide the seat to desired position and retighten the self-tapping screws.

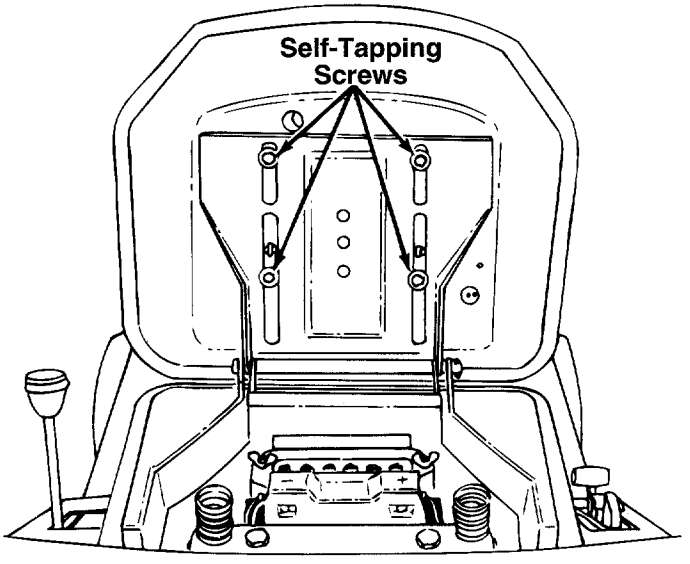


FIGURE 13.

STEERING WHEEL ADJUSTMENT

There are three height positions for the steering wheel. See figure 14. To adjust, proceed as follows.

Remove the steering cover by removing four self-tapping screws. Remove the hex bolt and hex lock nut on the steering shaft.

Raise or lower the steering shaft to desired height. Secure with the hex bolt and hex lock nut. Reassemble the steering cover.

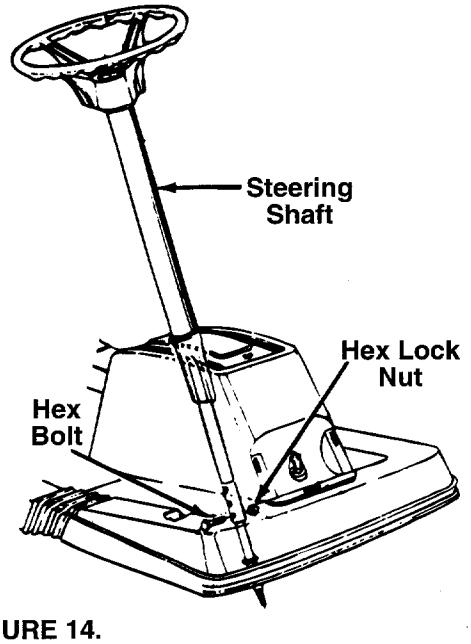


FIGURE 14.

CARBURETOR ADJUSTMENT

WARNING: If any adjustments are made to the engine while the engine is running (e.g. carburetor), disengage all clutches and blades. Keep clear of all moving parts. Be careful of heated surfaces and muffler.

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load. To adjust the carburetor, refer to the separate engine manual packed with your unit.

NOTE: A dirty air cleaner will cause an engine to run rough. Be certain air cleaner is clean and attached to the carburetor before adjusting carburetor.

LUBRICATION

WARNING: Always stop engine and disconnect spark plug wire before cleaning, lubricating or doing any kind of work on riding mower.

Engine—Maintain the engine oil according to the engine manual.

Front Wheels—Front wheels which have bronze bearings are provided with grease fittings. Lubricate at least once a season with automotive multi-purpose grease.

Front Axle—The front axle assemblies are provided with grease fittings. Lubricate at least three times a season using automotive multi-purpose grease.

Steering Gear—Lubricate the steering gear segment at least once a season using automotive multi-purpose grease. To lubricate, turn the steering wheel all the way to the right. Brush grease on the steering gear segment. Turn steering wheel several times in both directions to disperse the grease.

Linkage—Oil all deck linkage and height adjustment linkage.

Transaxle—It is lubricated at the factory and does not require checking. Lubricate with 10 oz. of grease (Part No. 737-0148) if disassembled.

MAINTENANCE

WARNING: Disconnect spark plug wire and ground it against the engine before performing any repairs or maintenance.

CUTTING BLADE

A. Removal for Sharpening or Replacement

WARNING: Be sure to disconnect and ground the spark plug wire before working on the cutting blade to prevent accidental engine starting. Protect hands by using heavy gloves or a rag to grasp the cutting blade.

1. Remove the large bolt and lock washer which holds the blade and adapter to the blade spindle. See figure 15.
2. Remove the blade and adapter from the spindle.
3. If the blade or blade adapter needs replacing, remove the two small bolts, lock washers and nuts which hold the blade to the adapter. See figure 15.

B. Sharpening

Remove the cutting blade by following the directions of the preceding section.

When sharpening the blade, follow the original angle of grind as a guide. It is **extremely important** that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury.

The blade can be tested for balance by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly.

NOTE: It is recommended that the blade always be removed from the adapter for the best test of balance.

C. Reassembly

Before reassembling the blade and the blade adapter to the unit, lubricate the spindle and the inner surface of the blade adapter with light oil. Lubricating the bolt holes, bolts and inner surface of the nuts with light oil is also recommended. Engine oil may also be used.

When replacing the blade, be sure to install the blade with the side of the blade marked "Bottom" (or with part number) facing the ground when the mower is in the operating position.

Blade Mounting Torque

3/8" Dia. Bolt 450 in. lb. min., 600 in. lb. max.
5/16" Dia. Bolt 200 in. lb. min., 350 in. lb. max.

NOTE: To insure safe operation, ALL nuts and bolts must be checked periodically for correct tightness.

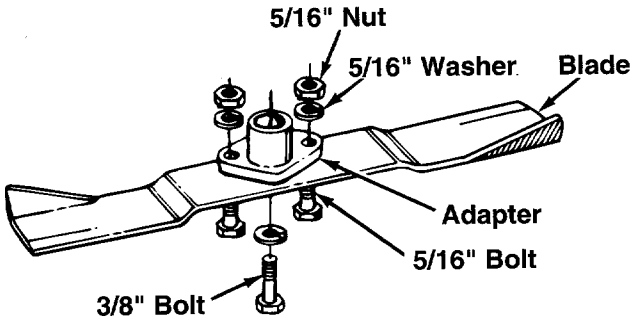


FIGURE 15.

FUEL FILTER

Your unit is equipped with a replaceable in-line fuel filter. Replace filter whenever contamination or discoloration is noticed. Order replacement filter through your engine authorized service dealer.

CLEANING ENGINE AND BLADE HOUSING

Any fuel or oil spilled on the machine should be wiped off promptly. Grass, leaves, and other dirt must not be left to accumulate around the cooling fins of the engine or on any part of the machine.

Clean the underside of the blade housing after each mowing.

BELTS

Check that belts are free of oil or dirt. Wipe the belts periodically with a clean rag.

ENGINE

Refer to separate engine manual for all engine maintenance instructions.

Maintain **engine oil** as instructed in the separate engine manual packed with your unit. Read and follow instructions carefully.

Service **air cleaner** every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced.

The **spark plug** should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specification.

BATTERY INFORMATION

WARNING

A. Battery acid must be handled with great care as contact with it can burn and blister the skin. It is also advisable to wear protective clothing (goggles, rubber gloves and apron) when working with it.*

B. Should battery acid accidentally splatter into the eyes or onto the face, rinse the affected area immediately with clean cold water. If there is any further discomfort, seek prompt medical attention.

C. If acid spills on clothing, first dilute it with clean water, then neutralize with a solution of ammonia/water or baking soda/water.

D. Since battery acid is corrosive, do not pour it into any sink or drain. Before discarding empty electrolyte containers, rinse them with a neutralizing solution.

E. NEVER connect or disconnect charger clips to battery while charger is turned on as it can cause sparks.

F. Keep all lighted materials (cigarettes, matches, lighters) away from the battery as the hydrogen gas generated during charging can be combustible.

G. As a further precaution, only charge the battery in a well-ventilated area.

***Always shield eyes, protect skin and clothing when working near batteries.**

DANGER

Battery contains sulfuric acid. Refer to previous warning. Antidote: EXTERNAL—Flush with water. INTERNAL—Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Seek prompt medical attention. EYES: Flush with cool water for at least 15 minutes, then seek immediate medical attention.

Since batteries produce explosive gases, keep all lighted materials (cigarettes, lighters, matches, etc.) away. Be sure to charge battery only in well-ventilated areas. Make certain venting path of battery (drain tube) is always open.

KEEP BATTERIES
OUT OF THE REACH OF CHILDREN!

BATTERY CARE AND MAINTENANCE

CHECK FLUID LEVEL

Check fluid level inside each cell of the battery every two weeks and before and after charging. Always keep level between the LOWER LEVEL and UPPER LEVEL lines on battery.

Add only distilled water. Never add additional acid or any other chemicals to the battery after initial activation.

NOTE: After operating the lawn tractor for a long period of time, check the fluid level in the battery as it can overheat and lose fluid.

CHARGING THE BATTERY

The engine is equipped with an alternator which charges battery when tractor is operated. Under normal conditions, the battery only needs to be charged before, during and after off-season storage. Follow the instructions under "Off-Season Storage."

To charge the battery: Make certain fluid level in each cell is between LOWER LEVEL and UPPER LEVEL. Use a 12 volt automotive charger which is rated less than 10 amps. Charge for 14 to 16 hours. DO NOT CHARGE LONGER THAN 30 HOURS.

REMOVING / INSTALLING / JUMP STARTING

WARNING: When removing or installing the battery, follow these instructions to prevent the screwdriver from shorting against the frame.

Removing the Battery: Disconnect negative cable first, then positive cable.

Installing the Battery: Connect positive cable first, then negative cable.

Jump Starting

1. First, connect end of one jumper cable to the positive terminal of the good battery, then the other end to the positive terminal of the dead battery.
2. Connect the other jumper cable to the negative terminal of the good battery, then to the FRAME OF THE UNIT WITH THE DEAD BATTERY.

WARNING: Failure to use this procedure could cause sparking, and the gas in either battery could explode.

CLEAN THE BATTERY

Clean the battery by removing it from the unit and washing with a baking soda and water solution. If necessary, scrape the battery terminals with a wire brush to remove deposits. Coat terminals and exposed wiring with grease or petroleum jelly to prevent corrosion.

BATTERY FAILURES

Some common causes for battery failure are: incorrect initial activation, lack of water, adding chemicals other than water after initial activation, undercharging, overcharging, corroded connections, freezing. **These failures do not constitute warranty.**

TIRES

Recommended operating tire pressure is approximately 12 p.s.i. (check sidewall of tire for tire manufacturer's recommended pressure). Maximum tire pressure under any circumstances is 30 p.s.i. Equal tire pressure should be maintained on all tires.

When installing a tire to the rim, be certain rim is clean and free of rust. Lubricate both the tire and rim generously. Never inflate to over 30 p.s.i. to seat beads.

WARNING: Excessive pressure (over 30 p.s.i.) when seating beads may cause tire/rim assembly to burst with force sufficient to cause serious injury.

REMOVING THE DECK

1. Disconnect the spark plug wire and ground it against the engine.
2. Move the blade engagement lever to the disengaged position.
3. Remove one hex bolt and lock washer at the front of lower outside belt guard. A 1/2" wrench is required. See figure 16.

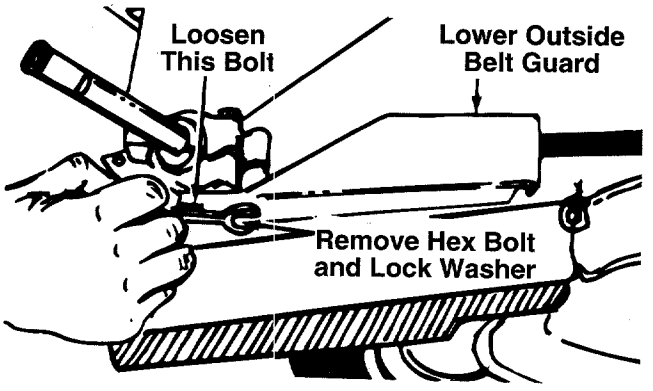


FIGURE 16.

4. Loosen (Do Not remove) the second bolt. See figure 16.

NOTE: Rear wheel was removed for clarity only. It is not necessary to remove the wheel when removing the deck.

5. Pivot the lower outside belt guard out and away from the engine pulley.
6. Disconnect the brake cable from the lower inside belt guard by removing the hairpin clip, clevis pin and flat washer. See figure 17.
7. Remove the front hex bolt from the lower inside belt guard as shown in figure 17.

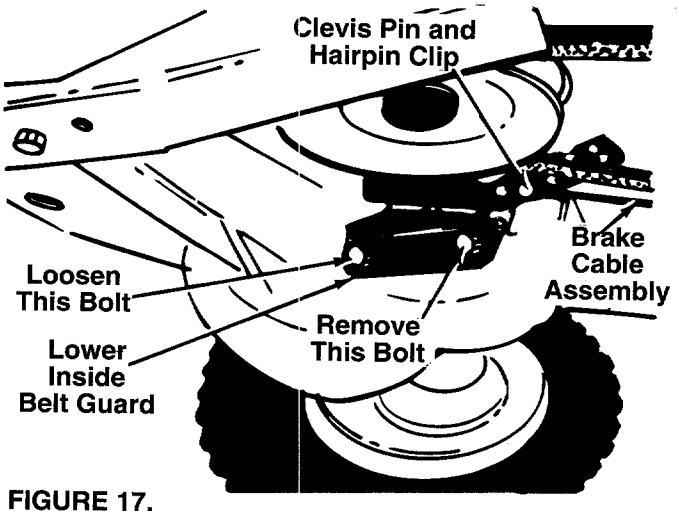


FIGURE 17.

8. Loosen the second bolt (Do Not remove), then pivot the guard downward, and slip the deck belt off the engine pulley. See figures 17 and 18.
9. Remove the four hairpin clips and flat washers which hold the deck links to the lawn tractor. See figure 19.

To reattach the deck, follow instructions in reverse order. Adjust the blade brake cable as instructed in Adjustment section.

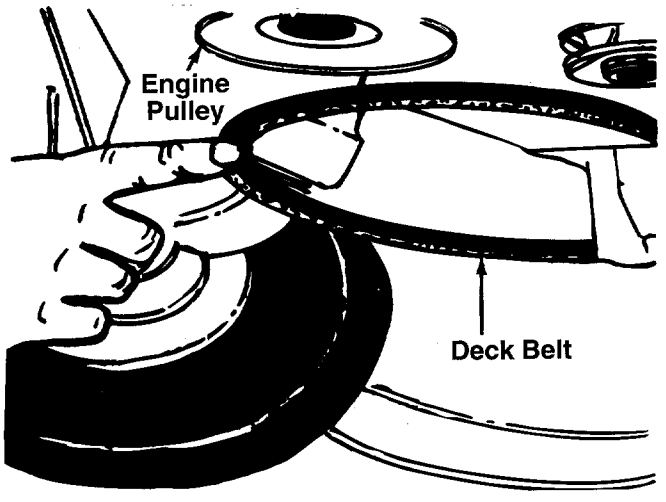


FIGURE 18.

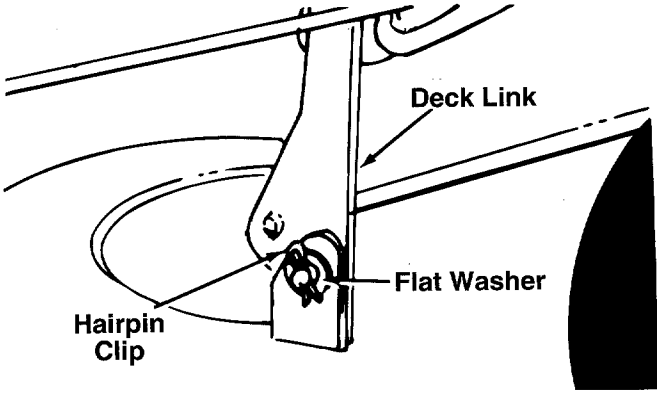


FIGURE 19.

DECK BELT REMOVAL

1. Remove the deck from the lawn tractor as described in previous section.
2. Remove the three belt keeper studs on the deck. See figure 20.
3. Remove and replace the deck drive belt.

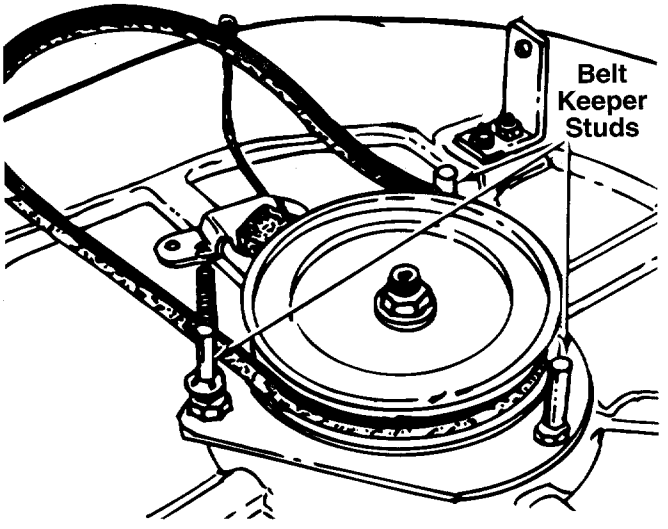


FIGURE 20.

DRIVE BELT REMOVAL AND REPLACEMENT

NOTE: It is recommended that the entire instructions on belt removal and replacement be read before changing the belts.

1. Disconnect the spark plug wire and ground it against the engine.
2. Remove the deck as described previously.
3. Unhook the idler spring from the lawn tractor frame. See figure 21. Loosen the bolt which secures the belt keeper to the idler pulley.

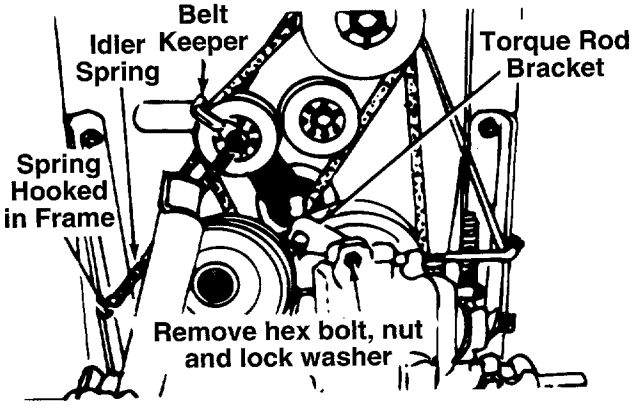


FIGURE 21.

4. Remove the hex bolt, nut and lock washer at the torque rod bracket and transaxle. See figure 22.
5. Remove the hex bolt which holds the torque rod bracket to the torque rod, and remove bracket. See figure 22.

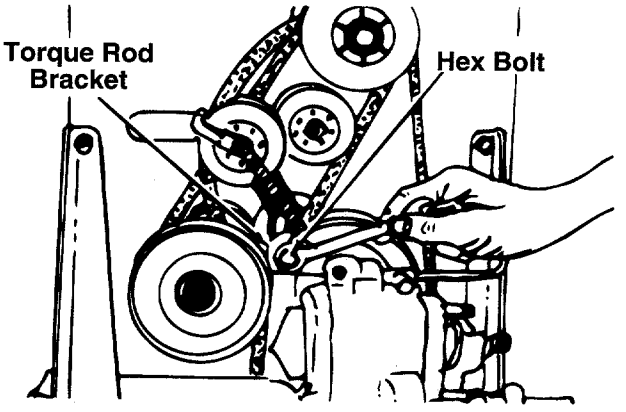


FIGURE 22.

6. Slip the "V"-belt off the variable speed pulley and transaxle pulley. See figure 23.

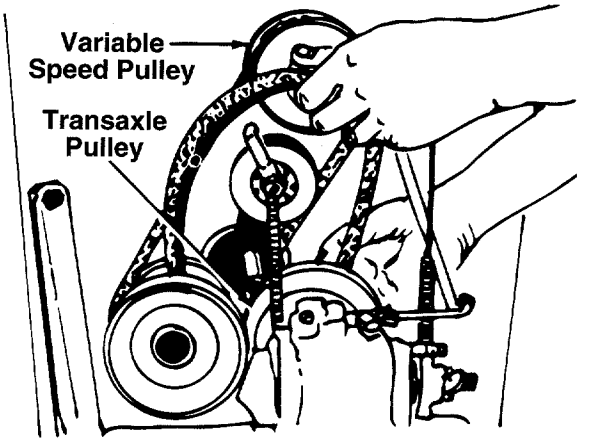


FIGURE 23.

7. Remove two hex bolts, nuts and lock washers from the engine pulley belt guard at lawn tractor frame to allow the engine pulley belt guard to drop down out of the way. See figure 24.

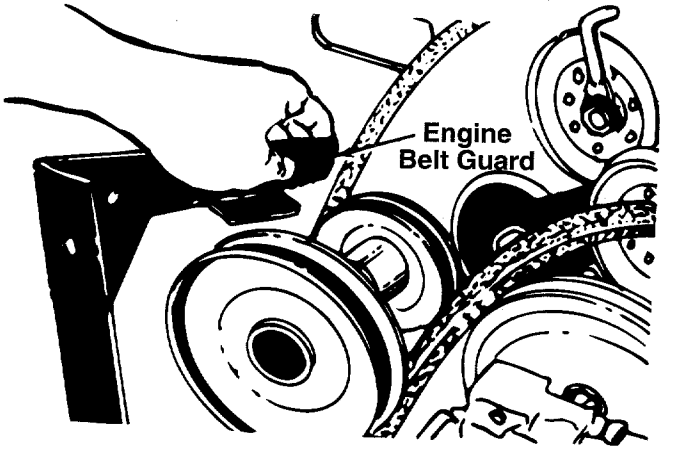


FIGURE 24.

8. Remove the idler pulley by removing the hex lock nut. See figure 25.

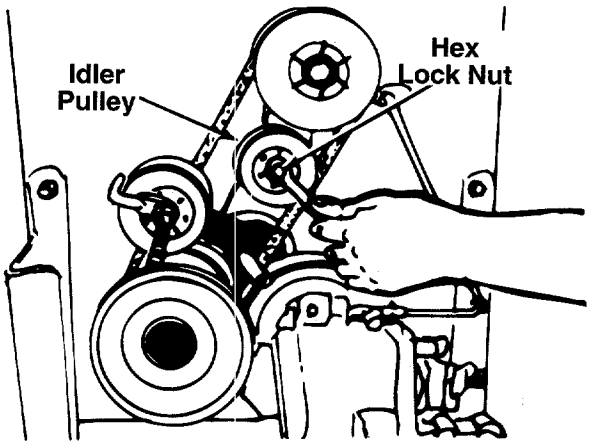


FIGURE 25.

9. Remove and replace the "V"-belt. See figure 26.

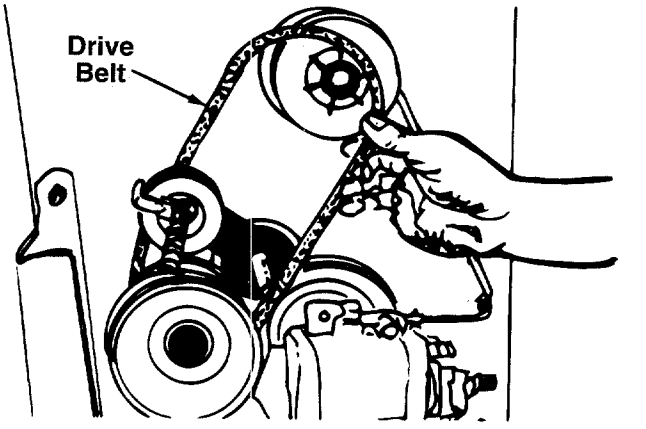


FIGURE 26.

10. Upon reassembly of idler pulley, be certain the hub side of idler goes against the idler bracket. See figure 27.

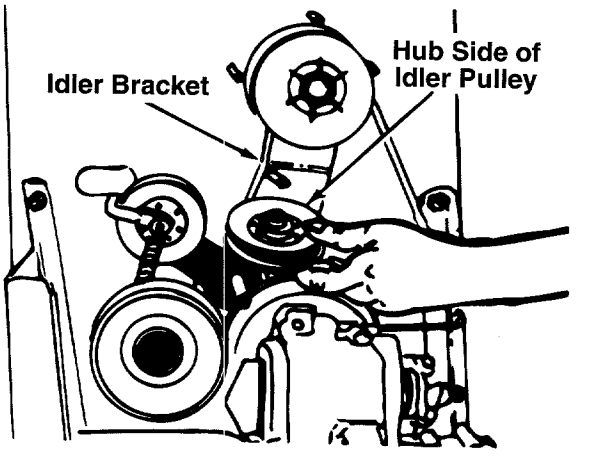


FIGURE 27.

11. When sliding the idler pulley on the idler bracket, be certain the belt is between the pulley and guide pin. See figure 28.

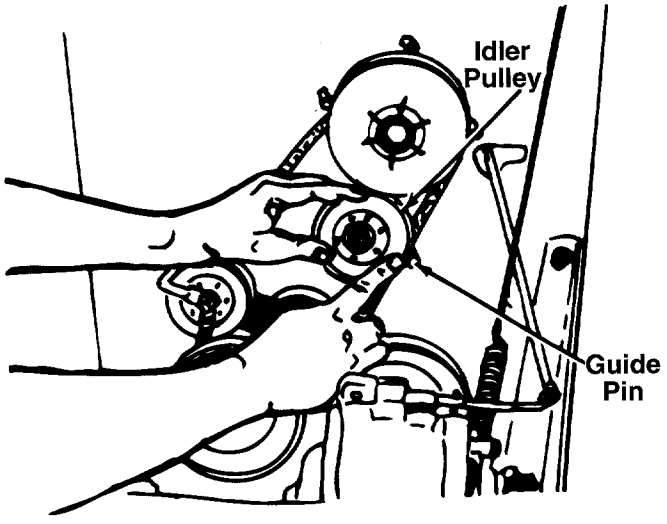


FIGURE 28.

12. Reverse the above steps (paying close attention to steps 10 and 11) when reassembling the new belts.

NOTE: Be certain all belts are inside belt guards and keepers. Also, be sure to reassemble the safety wire at the deck chute.

OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, prepare for storage as follows.

1. Clean the engine and the entire unit thoroughly.
2. Lubricate all lubrication points. Wipe the entire machine with an oiled rag to protect the surfaces.
3. Refer to the engine manual for correct engine storage instructions. The engine must be completely drained of fuel to prevent gum deposits from forming on essential carburetor parts, fuel lines and fuel tanks.
4. **Charge battery fully.** The battery loses some of its charge each day when the unit is not used. NEVER store battery without a full charge. Recharge battery before returning to service or every two months, whichever occurs first.
5. Store unit in a clean, dry area. Do not store next to corrosive materials, such as fertilizer.

NOTE: When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rustproof the equipment. Using a light oil or silicone, coat the equipment, especially any chains, springs, bearings and cables.

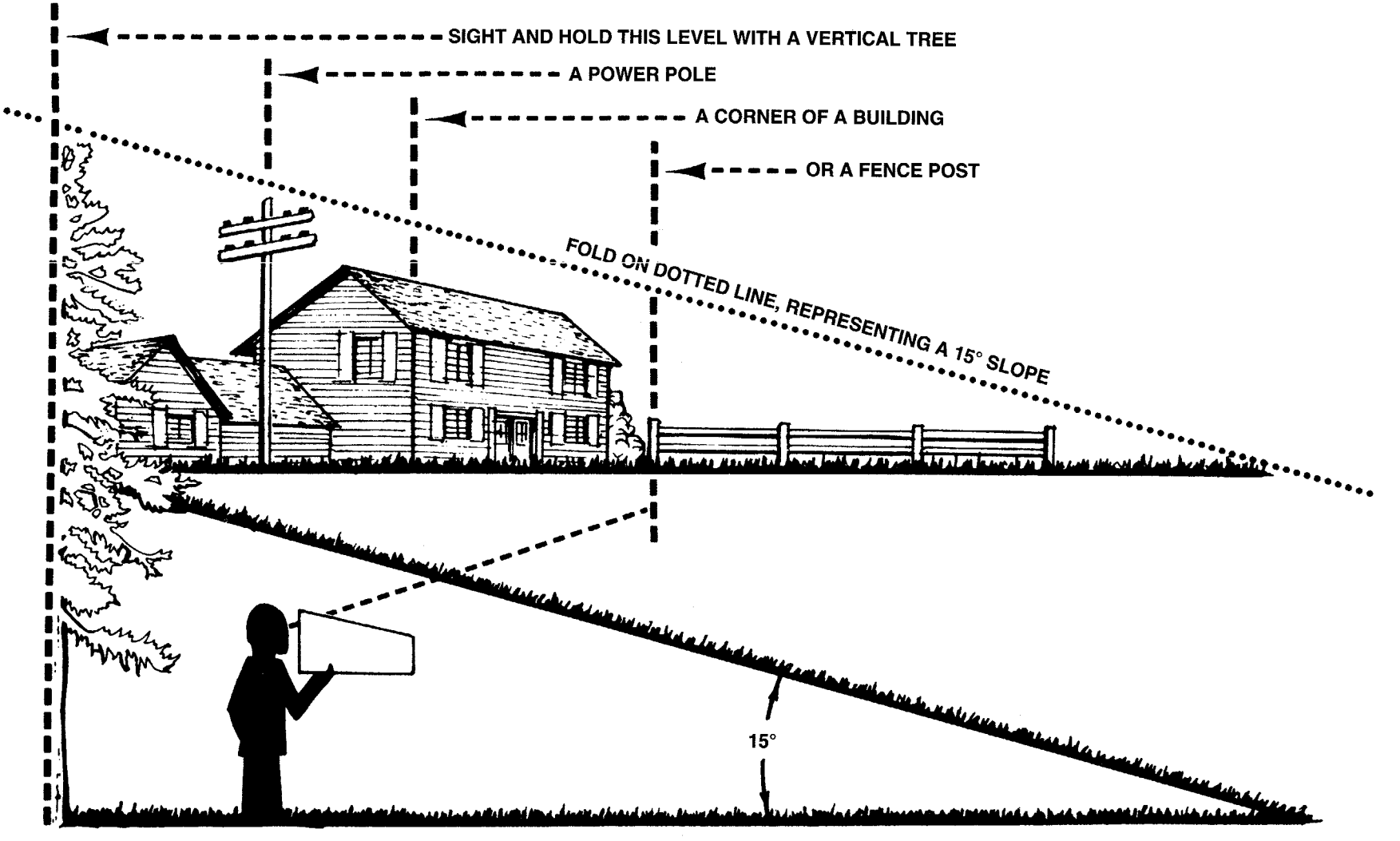
TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
ıgine will not ank	Battery installed incorrectly	The battery must be installed with negative terminal attached to black ground wire. Negative terminal is identified at the post by "NEG", "N" or "-". The positive terminal, identified by "POS", "P" or "+", must be attached to the big red wire which goes to the solenoid.
	Battery is dead or weak	Check fluid level in battery. If fluid is low, fill to UPPER LEVEL line with water. Charge with taper charger until fully charged.
	Blown fuse or circuit breaker	Replace fuse with 7-1/2 amp. automotive type fuse. Fuses seldom fail without a reason. The problem must be corrected. Check for loose connections in the fuse holder. Replace fuse holder if necessary. A dead short may be in the cranking or charging circuit where the insulation may have rubbed through and exposed the bare wire. Replace the wire or repair with electrician's tape if the wire strands have not been damaged. Note: Look for a wire pinched between body panels, burned by the exhaust pipe or muffler or rubbed against a moving part.
	Engine ground wire loose	Engine should have a black ground wire running from engine to frame or mounting bolt.
	Safety switch button not depressed	There are two switches in the starting circuit of your unit: the clutch pedal switch and the deck lift lever switch. Make certain the actuator is fully depressing the buttons on each switch.
gine cranks t will not start	Throttle or choke not in starting position	Check owner's guide for correct position for throttle control and choke for starting.
	No spark to spark plug	Spark plug lead disconnected. Connect lead. Hold spark plug lead away from engine block about 1/8". Crank engine. There should be a spark. If not, have engine repaired at authorized engine service dealer. Faulty spark plug. To test, remove spark plug. Attach spark plug lead to spark plug. Ground the spark plug body against the engine block. Crank the engine. The spark plug should fire at the electrode. Replace if it does not.
	No fuel to the carburetor	Gasoline tank empty. Fill. Fuel line or in-line fuel filter plugged. Remove and clean fuel line. Replace filter if necessary.
	Air filter dirty	If the air cleaner is dirty, the engine may not start. Clean or replace as recommended by the engine manufacturer.
ɡine smokes	Engine loses crankcase vacuum	Dipstick not seated or broken. Replace defective part. Engine breather defective. Replace.
ɔessive ration	Bent or damaged blade spindle	**Stop engine immediately.** Check all pulleys, blade adapters, keys and bolts for tightness and damage. Tighten or replace any damaged parts.
	Bent blade	**Stop engine immediately.** Replace damaged blade. Only use original equipment blades.
wer will not charge ss or leaves ut strips	Engine speed low Speed selection Blades short or dull	Throttle must be set at full throttle. Use lower ground speed. The slower your ground speed, the better the quality of cut. Sharpen or replace blades (uncut strip problem only).

above steps fail to correct the problem, take the unit to your local authorized service dealer for repair.

USE THIS PAGE AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.

SLOPE GAUGE


SIGHT AND HOLD THIS LEVEL WITH A VERTICAL TREE
A POWER POLE
A CORNER OF A BUILDING
OR A FENCE POST
FOLD ON DOTTED LINE, REPRESENTING A 15° SLOPE
15°

WARNING

Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

Operate RIDING mowers up and down slopes, never across the face of slopes.
Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.

The only way to insure the performance of your product is to use original equipment parts and accessories. Cub Cadet designs and engineers quality parts to exacting specifications. When you substitute, you take a chance on quality, reliability, safety and performance. Use Cub Cadet original equipment parts—See your local Cub Cadet dealer!

Engine Oil (SAE 30)	737-0208 (48 oz. req'd.)
Blade	742-3012
Battery	725-1633
Upper Drive Belt	754-0241A
Lower Drive Belt	754-0240
Deck Belt	754-0264
Transaxle Grease (15 oz. req'd.)	737-0148
Spark Plug	J19LM
Air Cleaner Cartridge	493909
Air Pre-Cleaner	272403
Fuel Filter	298090
Mulching Kit	190-093-100
Twin Bag Grass Collector	190-426-100

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